Authors' Response To Peer Reviews

Authors' Response to Peer Reviews of "Artificial Intelligence in Public Health: Integrated SPAR-4 Systematic Literature Review and Bibliometric Analysis"

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This is the authors' response to peer review reports for "Artificial Intelligence in Public Health: Integrated SPAR-4 Systematic Literature Review and Bibliometric Analysis."

Round 1 Review

Reviewer Q [1]

General Comments

This paper [2] conducts a systematic review of literature at the intersection of artificial intelligence (AI) and public health, addressing a topic of theoretical value and practical relevance, which aligns well with contemporary academic trends in digital health. However, this paper is undermined by weaknesses in conceptual clarity, methodological transparency, and analytical depth.

Specific Comments

Major Comments

1. The Introduction section needs to provide explicit definitions and operational boundaries for the key concepts of "Artificial Intelligence" and "Public Health." A clear specification of the types of AI technologies included and the specific aspects of public health addressed is crucial. Without this, the methodology for the literature review may lack precision, and the applicability of the findings will be difficult to assess.

Response: This is a valid observation by the reviewer. We defined the key concepts of "Artificial Intelligence" and "Public Health" in the Introduction. We revised the paragraph as follows:

"AI has revolutionized the global economy. The latest advances in AI suggest that it will impact almost everything we do in the next few years. It is expected that AI will change the field of health care and public health in general. Before exploring the significance of this field, it is essential to define AI and public health as they are presented in the literature. Gil de Zúñiga [3] defined AI as 'the tangible real-world capability of non-human machines or artificial entities to perform tasks, solve problems, communicate, interact, and act logically as it occurs with biological humans.' Dahlke [4] presented a sociotechnical definition: 'Artificial intelligence (AI) refers to digital machine-based systems that process inputs, infer concepts, and generate outputs for explicit or implicit objectives. It can be expected to perceive and influence its environment to varying degrees of autonomy. The purpose of fulfilling these objectives is to automate human labor and/or augment human intelligence.'

Public health, on the other hand, is defined as 'the art and science of preventing disease, prolonging life and promoting health through the organized efforts of society' [5]. We will use these definitions of AI and public health to limit the scope of our study."

2. The connection between the analysis of "journals" and "researchers" highlighted in the Introduction section and the paper's specific research questions remains ambiguous. It is suggested that the content expression be re-examined.

Response: Thank you for pointing out the ambiguity in the connections between "journals" and "researchers" due to the lack of context. We address this ambiguity by providing context information about the research domains included in our analysis. These domains include IS, public policy, and health care. The top journals and top researchers are both identified from these areas. Both of them can be identified from the bibliographic analysis in our systematic literature review (SLR) framework. The modified paragraph can be found below:

"The application of AI has significantly impacted public health, yet there remains a limited understanding of its role in transforming public health research. Many important questions about AI's integration into public health studies remain unanswered in the research domains of IS, health care, and public policy. For example, what are the major research themes in the studies of AI and public health? Which methodologies are most used in AI and public health research? Who are the leading researchers studying the application of AI in public health in the IS, public policy, and health care research fields? Which peer-reviewed academic journals publish the most studies on AI and public health in the cross-disciplinary fields of IS, public policy, and health care? A review of the existing literature in these domains, particularly focusing on the integration of AI technologies and the ethical, regulatory, and environmental implications they bring, could help address these questions."

3. The justification for the SLR method would be stronger if it were more explicitly grounded in the need to address the specific research questions. For a more streamlined narrative, the authors should consider integrating the theoretical framework into the Introduction.

Response: We completely agree with the reviewer that the SLR framework would be more explicitly grounded by integrating research questions, the theoretical framework, and their connections into the Introduction section. Therefore, we added the research questions to the Introduction first. Based on the research questions, we proposed our theoretical framework. The revised sections can be found below:

Research Gap and Research Questions

However, current literature reviews typically use traditional review methods, which often limit their literature searches to a handful of prestigious journals, introducing data selection bias. Additionally, these reviews tend to focus on research topics selected based on the reviewers' interests. These issues can be mitigated by using the SLR methodology, which offers scientific rigor and a systematic approach to the literature review process.

SLR provides several advantages over traditional literature reviews. By treating the literature review as a scientific process in empirical research and adhering to rigorous review protocols, SLR can reduce bias in the design of the review process. Furthermore, SLR aims to include all relevant literature pertaining to the research questions, resulting in broader coverage and eliminating selection bias compared to traditional methods. To create a more comprehensive picture of AI-related public health research, our approach also incorporates content analysis, bibliographic analysis, and meta-analysis alongside the SLR process. In contrast, the few SLR studies conducted in this field predominantly rely on qualitative interpretations and a narrative format for their analysis.

In this paper, we address the need for research in the area of AI and public health by conducting an SLR. We focus on the various aspects of AI that have been studied in public health research, the areas that have been impacted by AI, and the future directions for its adoption and integration in public health. We intend to explore the broader question of how AI tools and techniques have been integrated into public health using our SLR-based framework. More specifically, we would like to address the following research questions in the realms of health care and health policy in our analysis:

RQ1: What aspects of AI have been studied or used in public health?

RQ2: What areas of public health have been impacted by the adoption of AI tools and techniques?

RQ3: What are the future directions for the application of AI in public health?

There are some subtle distinctions between the research questions presented above. In RQ1, we focus on the AI tools and techniques used in public health. RQ2 emphasizes the specific areas of public health that have been influenced by advancements in AI. Finally, RQ3 looks into potential future directions for the use of AI in the field of public health.

Theoretical Framework and Implementation

We have introduced the significance of studying AI within the field of public health. In this section, we will review the existing literature on this topic and discuss the need for an SLR focused on AI and public health. Literature reviews are a common method used to understand the current state of research in a specific domain. Some of these reviews offer an overview of studies within specific areas, such as digital health, while others focus on research from particular countries or continents. Additionally, some reviews target specific health conditions. Examples of literature examining digital health include studies on online information-seeking behavior, the use of social media platforms for public health initiatives, and the impact of digital data sources on public health. There have been studies in different regions of the world including the Middle East and North Africa (Saadah), Thailand (Kaushik), and Africa (Hu). Literature

reviews that have examined specific health conditions include studies on anxiety and depression, chronic diseases, mental health, and dentistry, to name a few. While several studies have examined digital health, specific regions, and particular diseases and conditions, a comprehensive review of all research related to AI and public health is still lacking in the existing literature. To address this gap, we propose the following research questions for this study.

Our paper is organized as follows: In the next section, we detail the methods used in our study, followed by the analysis and results. Finally, we conclude with a discussion of our findings and a summary of our overall conclusions.

4. The Methods section requires greater detail to enhance the study's credibility. Specifically, the data extraction process must be disclosed more comprehensively. This includes the rationale for selecting specific bibliographic databases, whether any data cleaning was performed, and if a double-blind protocol was followed during the review to minimize bias. Furthermore, the justification for limiting the Web of Science Categories to the current selection needs explanation. Regarding the data analysis, it is crucial to report the specific software/tools used, the justification for their selection, and the detailed parameter settings applied.

Response: We thank the reviewer for their comments about the Methods section. First, we created a Methods section. Then, we provided a comprehensive explanation of the data extraction process using the protocols outlined in the Systematic Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR). We used the Web of Science database to retrieve articles via a Boolean search described in Multimedia Appendix 1. We cleaned the data that were extracted from the database and removed articles that were not relevant to our study. In terms of software tools, we used VOSviewer to analyze articles and construct a co-occurrence network of keywords, titles, and abstracts. A detailed description is provided in the Methods section of the paper.

5. Move any methodological descriptions or interpretive discussions to their respective sections such as the Methods or Discussion section instead of the Analysis and Results section, as their current placement in Results is inappropriate.

Response: We share the reviewer's concern that the methodological description or interpretive discussion should be moved from the Analysis and Results section to either the Methods or Discussion section. We made major changes to the applicable sections to ensure a clear separation between the results analysis presentation and the methodology/result discussion. The sections have been reorganized to conform to the format outlined for the Introduction, Methods, Results, Discussion, and Conclusion.

6. The Discussion section requires deeper interpretation. It currently restates thematic clusters from the results without delving into what they reveal about the specific aspects, implications, or evolution of AI technology in public health.

Response: As mentioned earlier, we have reorganized the paper and moved content into the Discussion section. We have expanded on the thematic clusters and focused on the implications of AI in public health.

7. The Discussion section should engage more substantively with existing literature to clarify the study's conceptual and practical contributions.

Response: We have revised the Discussion section to include the study's contributions. Additional information about the implications and practical contributions are also provided in the Conclusions section.

8. The Discussion section does not adequately interpret the implications of key findings presented in the Results section, such as the significant disparities in publication output by country.

Response: We discussed the publication output by country in the Results section. We revised the Discussion section significantly to include an interpretation of the findings.

9. Found that there are many issues in the references. Please carefully check the full citations to ensure accuracy and consistency.

Response: We believe that the reviewer is referring to mismatches in the references. We have reviewed the citations in the paper and the reference list for accuracy.

Minor Comments

10. The Results section must disclose the specific tools used to generate each figure (eg, the software used for Figures 5 and 7).

Response: We have disclosed the tool used to create tree-charts for Figure 5. We edited the paragraph before presenting Figure 5 as follows:

"After analyzing the number of publications in AI and public health by country, it would be interesting to explore the data at a more detailed level by examining the number of publications by institution. A tree-chart was created using the tools provided within the Web of Science software. Figure 5 shows the top 10 institutions with the most publications in this field."

11. Please report the standard Boolean search query used for the literature retrieval.

Response: The standard Boolean search query used for literature review is already provided in Multimedia Appendix 1, which is at the end of the paper. We edited the title to add "Boolean" to it.

12. Some figures appear to be incomplete.

Response: The reviewer did not mention which figures were incomplete. We have reviewed all the figures again in the initial submission and could not identify any that are incomplete.

13. I recommend consolidating the output data for authors, institutions, and countries into a single table or figure, rather than presenting them separately.

Response: We think that the reviewer is making an important suggestion. But, combining the information about authors, institutions, and countries into a single table or figure will be confusing to the reader. This is particularly complicated if the co-authors of the same paper are from different institutions and countries. We have kept the output data results separate for clarity.

14. Since the study only includes data from 2021 onward, I suggest that Figure 3 should start from the year 2021.

Response: Thank you for the observation. We have revised Figure 3 and removed references to 2020. The publications and citation counts now start from the year 2021.

15. The final stage of the SPAR-4-SLR protocol should be "Assessing."

Response: We thank the reviewer for catching this error. We have corrected it in Figure 1.

Reviewer T [6]

General Comments

This paper covers a topic worth exploring, but there are still many fundamental issues that need to be addressed and refined.

Specific Comments

Major Comments

1. Both core themes in the title have received extensive attention, yet the authors failed to review relevant systematic studies to clarify current research gaps and the necessity of this study.

Response: The reviewer makes a good point. We already included systematic studies in AI and public health in our list of articles. In fact, one of our clusters includes studies in systematic literature reviews. We have clarified the necessity of this study in the Introduction and identified potential research gaps in the Discussion and Conclusion sections of this paper.

2. The authors assert that articles prior to 2021 are irrelevant to the existing themes. This claim is unconvincing. If the authors wish to focus on generative AI, they should revise the title and related statements.

3. Public health research is an extremely broad field. Please define relevant concepts and their implications.

Response: We received a similar comment about providing definitions for AI and public health. We have provided definitions and described the domains of both concepts in the Introduction section.

4. Is the use of "Public Health" as the sole search term sufficiently scientific and comprehensive? Additionally, this paper appears to lack coverage of information technology–related domains.

Response: We believe using "public health" as a search term is appropriate and aligns with the research questions we aim to answer in this study. I am not sure what the reviewer means by the lack of coverage of information technology–related domains. We have "artificial intelligence" as part of the search terms as well. It covers the technology-related domains.

5. Analysis of source publications is lacking.

Response: We appreciate the reviewer's comments about source publications. We have analyzed publications by individual and country. We have noticed that this field is evolving rapidly. Analysis of source publications does not provide any additional insight beyond that from publications by country and individuals. An analysis of source publications will be dominated by the few AI journals currently available. We believe that the contribution of such an analysis is limited.

Minor Comments

1. The figure could include appropriate quantitative annotations to improve readability.

Response: We have included the quantitative annotation for the tree map charts. We have not added them to the charts because the x- and y-axis dimensions provide sufficient information for readability.

Round 2 Review

Reviewer Q [1]

General Comments

Thank you for submitting the revised manuscript. The quality of the paper has improved; however, several issues still need to be addressed.

Specific Comments

Minor Comments

1. The current reference formatting is not compliant and should be thoroughly revised according to the Vancouver style.

Response: We would like to thank Reviewer Q for their comments. The current reference formatting was incorrect, as the reviewer mentioned. We revised the references and put them in the Vancouver style.

2. Some figures lack essential information. For example, Figures 2 and 4 are missing axis titles.

Response: We removed Figure 2 per the reviewer's suggestion #7 below. We added axes to Figure 4. However, since we removed Figure 2 per the reviewer's recommendation, the new Figure 4 is now Figure 3 in the paper.

3. It is recommended to delete the Theoretical Framework and Implementation section and integrate the relevant content into the Introduction. This article does not involve an analysis of a theoretical framework, and the listing of existing studies cannot be regarded as a theoretical framework.

Response: Based on the reviewer's suggestion, we have deleted the section title for Theoretical Framework and Implementation. We agree that the paper does not need a theoretical framework. We have left the content the same and added it to the Introduction section.

4. In Figure 1, the search period is specified as August 2025, which is inconsistent with the search time mentioned in the main text (September 18, 2025). Please ensure consistency.

Response: We thank the reviewer for catching this. We would like to clarify that our database search was conducted on September 18, 2025, but the articles were restricted to those published by the end of August 2025. We agree with the reviewer. To ensure consistency, we have removed references to September 18, the date of the search.

5. I noticed the following statement in the Methods section: "We used VOSViewer to analyze articles and to construct a co-occurrence network of keywords, titles, and abstracts. This analysis involves creating a keyword co-occurrence network (KCN) to represent a collection of texts." I suggest removing "titles, and abstracts," as Figure 8 only presents a keyword co-occurrence analysis.

Response: We agree with the reviewer. We have removed the reference to "titles and abstracts."

6. The total number of publications by year in Table 1 sums to 2118, which is inconsistent with the 2071 articles reported as finally included in the Methods section. Please verify and correct the numbers.

Response: We rechecked the numbers and confirmed that 2071 articles were finally included in the Methods section. However, based on the reviewer's comment #7 below, which suggested that Figures 2 and 3 and Table 1 contain redundant information, we followed the reviewer's suggestion and removed Table 1 from the paper.

7. Figure 2, Table 1, and Table 3 contain redundant information. It is recommended to retain only Figure 3.

Response: We have followed the reviewer's suggestion and removed Figure 2 and Table 1. We believe the reviewer was referring to retaining Figure 3 because it contained the same information as Figure 2 and Table 1. We have retained Figure 3, renumbered it as Figure 2 (after deleting the original Figure 2), and revised the relevant text.

8. When referring to the terms generated by VOSViewer in the main text, the corresponding terms should be enclosed in quotation marks.

Response: We respect the reviewer's comments, but we would like to clarify that the tool VOSViewer did not generate any terms. It combined keywords from the articles into clusters and assigned each cluster a color. We, as researchers, examined the keywords and assigned a label to the cluster based on the keywords in the cluster. Since VOSViewer did not generate the terms, we have not put them in quotes, but if the reviewer wants us to place the labels in quotes, we will be happy to do so.

Reviewer T [6]

General Comments

I still cannot accept the rationale of the search strategy. Furthermore, the authors have evaded 3 of my 5 points. This is unacceptable. Regarding the third point that the authors don't understand, I believe it's that even a single word from an AI cannot cover all relevant results.

Response: It is unfortunate that Reviewer T feels that we have disregarded their suggestions. In order to address the reviewers' concerns about the search term, we added the following explanations in this round of revisions:

"It is worth noting that the broad terms 'artificial intelligence' and 'public health' were used in our search formula. This is due to the heterogeneous, dynamic, and cross-disciplinary nature of both concepts. For instance, the topic of AI consists of the discussions of traditional AI and generative AI. Some of the AI studies focus on the technical aspects of AI algorithm development, while other studies focus on changes in society and ethics brought by AI. Similar to AI, public health research spans a wide range of themes, including pandemic control and prevention, the design and implementation of public health policy, and health education. The use of broad rather than specific search terms would ensure unbiased and comprehensive coverage of literature relevant to the goal of this study."

We have defined public health in the first paragraph of our Introduction as stated below:

"Public health, on the other hand, is defined as 'the art and science of preventing disease, prolonging life and promoting health through the organized efforts of society.'"

We strongly believe that public health is a well-defined, relevant field that can be used in search files. We thank the reviewer for their insightful comments. We believe our paper is improved after implementing the reviewer's suggested changes.

Conflicts of Interest

None declared.

References

1. Guo Z. Peer review report of "Artificial Intelligence in Public Health: Systematic Literature Review". JMIRx Med. 2026;7:e103604. [doi: 10.2196/103604]
2. Dasgupta A, Xue Y, Tao K. Artificial intelligence in public health: a systematic literature review. JMIRx Med. 2026;7:e85709. [doi: 10.2196/85709]

3. Gil de Zúñiga H, Goyanes M, Durotoye T. A scholarly definition of artificial intelligence (AI): advancing AI as a conceptual framework in communication research. Polit Commun. Mar 3, 2024;41(2):317-334. [doi: 10.1080/10584609.2023.2290497]
4. Dahlke J. A.I. go by many names: towards a sociotechnical definition of artificial intelligence. Arxiv. Preprint posted online on Oct 17, 2017. [doi: 10.48550/arXiv.2410.13452]
5. Winslow CE. The untilled fields of public health. Science. Jan 9, 1920;51(1306):23-33. [doi: 10.1126/science.51.1306.23] [Medline: 17838891]
6. Jiang Y. Peer review report of "Artificial Intelligence in Public Health: Systematic Literature Review". JMIRx Med. 2026;7:e103605. [doi: 10.2196/103605.J]

Abbreviations

AI: artificial intelligence
SLR: systematic literature review
SPAR-4-SLR: Systematic Procedures and Rationales for Systematic Literature Reviews

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